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MECHANICS.

No. I.

PARALLEL MOTION FOR A STEAM-ENGINE.

The SILVER MEDAL *was presented to Mr.* ISAAC DODDS, *Engineer to the Horseley Iron Works, near Birmingham, for his Parallel Motion for a Steam-Engine; a Model of which has been placed in the Society's Repository.*

The parallel motion invented by Mr. Dodds is considered by him to be chiefly applicable to standard or portable engines, especially such as are required to have more centres than usual for the purpose of suspending to them the rods of vacuum pumps. The radius-bar is supported by a bracket projecting from the standard, instead of being placed, as it generally is, on the side of the cylinder; and this change in the position of the fixed point of the radius-bar is very advantageous in portable engines, as giving the means of withdrawing the piston, for the purpose of packing it afresh when required, without removing any frame-work or standards. In the annexed figure, the dotted lines represent part of the standard and the bracket, to the end of which is jointed the radius-bar *o*; *p* is the right hand half of the beam, carrying three brasses, to which are attached, on movable centres, three vertical links; *a a a* are three centres of suspension, the outer of which is for the piston-rod, and the others are for pump-rods. The link *e* is attached below to the radius-rod; and the other two links are joined below to the parallel-bar, as usual, which is itself united to the radius-bar by means of the supplementary bar *m*. The bar *m* is screwed at the end, as shown in the figure, and may thus be adjusted to compensate for the gradual wearing of the brasses; whereas, in the common parallel motions, there is no way of correcting the error occurring from the above cause, but by a general repair.

The above described parallel motion has been applied by the inventor to several engines, one of them in the possession of a sugar-refiner in London, and appears to have given satisfaction.